

02/13/14 Agenda

- Warm up exercise
- Section 6.5 - Linear Inequalities

Homework - Worksheet 6.5

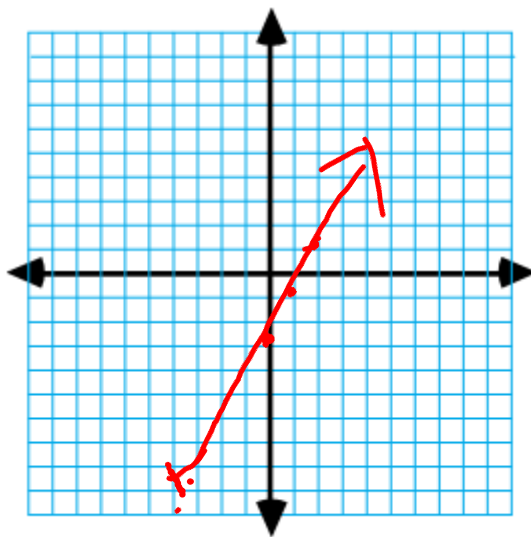
Warm Up

Graph:

$$y = 2x - 3$$

$$b = -3$$

$$m = \frac{2}{1} \rightarrow$$



6.5 day 2 - Linear Inequalities

Target 6D

February 13, 2014

What symbols do we have for "inequality"?

$<$ $>$ \leq \geq
LT GT LE GE

What does the word "linear" refer to?

LINE (GRAPHS OF)

How do we graph a linear inequality?

Just like graphing a line with 2 extra questions:

Solid or Dashed Line?

Shade above or below the line?

\circ \bullet

 $<$ \leq
 $>$ \geq

ABOVE/RIGHT $>$ \geq
BELOW/LEFT $<$ \leq

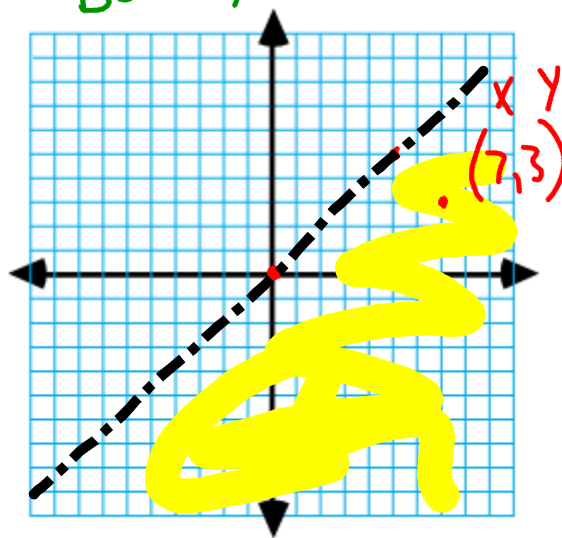
Graph:

$$y = x$$

$$y < x$$

$$m = 1$$

$$b = 0$$



What symbols do we have for "inequality"?

LT GT LE GE
 $<$ $>$ \leq \geq

What does the word "linear" refer to?

LINES (GRAPHS OF)

How do we graph a linear inequality?

Just like graphing a line with 2 extra questions:

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$<$

\leq

ABOVE/RIGHT $>$ \geq

$>$

\geq

BELOW/LEFT $<$ \leq

(x, y)
 $(0, 0)$

$(8, 0)$

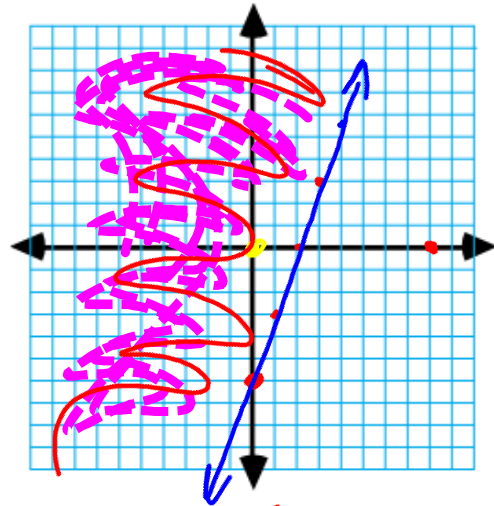
$$y \geq 3x - 6$$

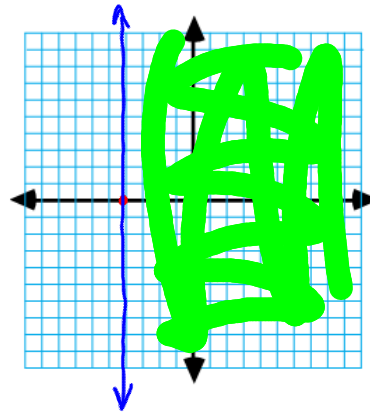
$$0 \geq 3(0) - 6$$

$$0 \geq -6 \text{ TRUE}$$

$$0 > 3(8) - 6$$

FALSE

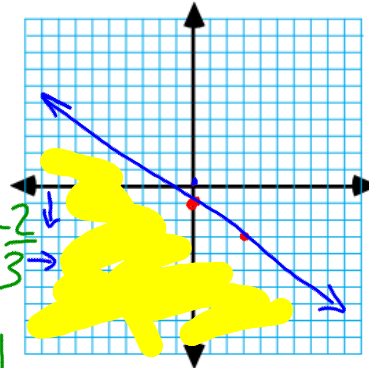


Graph: $x \geq -4$ 

$$2x + 3y \leq -3$$

$$\begin{array}{r} \cancel{2x} + 3y \leq -3 \\ -\cancel{2x} \quad \quad -\cancel{2x} \\ \hline 3y \leq -2x - 3 \\ \frac{3y}{3} \leq \frac{-2x - 3}{3} \end{array}$$

$$y \leq \frac{-2}{3}x - 1 \quad m = -\frac{2}{3} \quad b = -1$$

TRY (0,0) $0 \leq -1$ FALSE

$$\#1 \quad y \geq -2x + 5$$

$$\begin{array}{c} x \ y \\ (6, 3) \end{array}$$

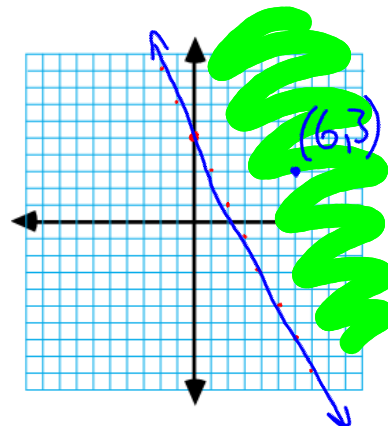
$$m = -\frac{2}{1} \rightarrow$$

$$b = 5$$

$$3 \geq -2(6) + 5$$

$$3 \geq -12 + 5$$

$$3 \geq -7 \text{ TRUE}$$



2 - Linear Inequalities

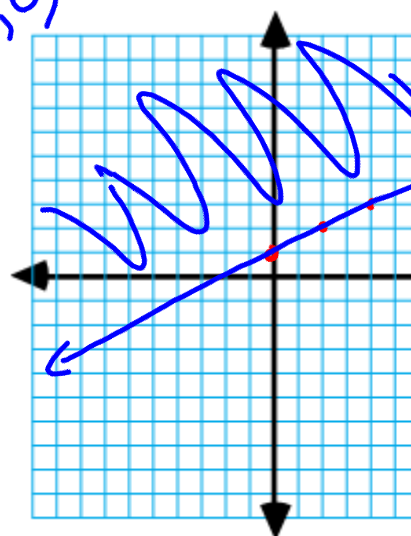
Target

February

$$y \geq \frac{1}{2}x + 1 \quad (-8, 0)$$

$$m = \frac{1}{2}$$

$$b = 1$$



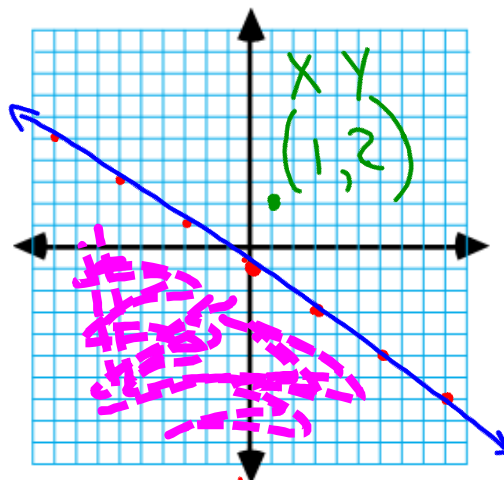
$$\begin{array}{r}
 2x + 3y \leq -3 \\
 \underline{-2x} \qquad \qquad \underline{-2x} \\
 3y \leq \frac{-2x-3}{3}
 \end{array}$$

$$y \leq \frac{-2}{3}x - 1$$

$$2 \leq \frac{-2}{3}(1) - 1$$

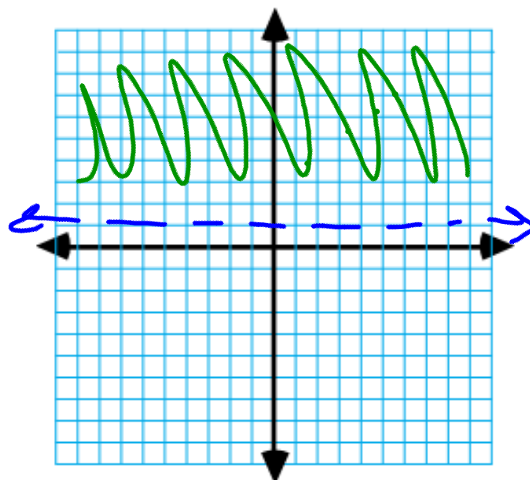
$$2 \leq -1\frac{2}{3}$$

FALSE



$$m = \frac{-2}{3} \quad b = -1$$

#5 $y > 1$ $y = 1$



6.5 day 2 - Linear Inequalities

Target 6D

February 13, 2014

$$4 \quad y \geq -x + 1$$
$$10 \geq -10 + 1$$
$$10 \geq -9$$

TRUE

